

What is claimed is:

1 1. A probe apparatus for testing a circuit chip, said probe
2 apparatus comprising a probe group having two or more
3 probes for independently conductively contacting a
4 single terminal of said circuit chip.

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1 2. The probe apparatus of claim 1, further comprising
2 an electronic circuit capable of recognizing a test
3 path resistance and correspondingly compensating a
4 voltage drop of an operational signal passing
5 through at least one of said probes.

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1 3. The probe apparatus of claim 2, wherein said
2 probe group comprises three probes and said
3 electronic circuitry is capable of recognizing
4 a) a first path resistance of said
5 resistance condition between said first
6 and said second contacting means along
7 said single test terminal;
8 b) a second path resistance of said
9 resistance condition between said first
10 and said third contacting means along
11 said single test terminal;
12 c) a third path resistance of said
13 resistance condition between said second
14 and said third contacting means along
15 said single test terminal; and
16 wherein said electronic circuitry is capable
17 of compensating said voltage drop
18 individually and in correspondence to one,

19 two or three operational signal paths
20 related to said probes.

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- 1 4. The probe apparatus of claim 2, wherein said
2 probe group comprises four probes and said
3 electronic circuitry is capable of recognizing
4 said test path resistance according to 4-Wire
5 Ohm's Measurement.
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- 1 5. The probe apparatus of claim 1, wherein at least
2 one of said two or more probes is a buckling beam.
- 3
- 1 6. The probe apparatus of claim 1, wherein said probe
2 group is bundled in a single perforation of a
3 sheath being part of said probe apparatus.
- 4
- 1 7. The probe apparatus of claim 6, wherein said
2 single perforation is a long hole.
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- 1 8. The probe apparatus of claim 6, wherein said
2 single perforation is a circular hole.
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- 1 9. The probe apparatus of claim 1, wherein said two or
2 more probes have probe tips essentially
3 concentrically arranged in correspondence to a
4 rotation axis of said single terminal having a
5 rotationally symmetric and non planar contact
6 surface such that said two or more probes contact
7 said single terminal in a self centering fashion.
- 8
- 1 10. The probe apparatus of claim 9, wherein said
2 probe tips are essentially spherical.

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1 11. A method for compensating a voltage drop of an
2 operational signal passing through an operational
3 signal path having a constant resistance and a
4 variable resistance related to a contact quality of a
5 probe and a terminal of said operational signal path,
6 said method comprising the steps of:

a) contacting said terminal with a group of two or more of said probes;

b) recognizing a path resistance along said probes of said group, said terminal and interfaces between said probes and said terminal;

c) deriving an operational signal path resistance from said path resistance; and

d) compensating said voltage drop in correspondence to
said operational signal path resistance

12. The method of claim 5, wherein said contacting is provided by said group including a first, a second and a third of said probes, wherein said recognizing includes recognizing a first, second and a third path resistance corresponding to said first, second and said third of said probes, and wherein said deriving includes deriving an absolute value of a first, second and third operational signal path resistance corresponding to said first, second and said third path resistance.